(25° C.) for about 30 minutes. During this time, the nonaqueous reaction mixture is preserved by keeping the mill closed. The ethanol is present in large excess over the quantity needed to esterify the available carboxylic acid groups of the telopeptide-containing collagen.

After the ethylation, the collagen is recovered and worked up in the same manner as in Example 8.

In this procedure, the carboxyl groups of the collagen are modified by esterification reaction with the ethanol to change the charge extant on the collagen molecules and provide a collagenous molecular structure which is soluble at neutral to basic pH in aqueous medium.

The solubilized product constitutes chemically modified, crosslinkable, telopeptide-containing collagen, which differs from that of the product of Example 1 only in that the strands of the triple helix molecule contain esterified (ethylated) carboxyl groups (carboxylic acid ethyl esters) instead of acylated (succinylated) amine groups, yet which analogously render the collagen soluble at neutral to basic pH.

The product is used in the same way as that of Example 4.

Comparable results are obtainable using dehydrated methanol, phenol (in acetone) and alpha-naphthol (in DMF), acidified with 0.1N HCl. Alternatively, in each case the reaction can be stopped before complete solubilization, and the desired product recovered, purified and worked up in corresponding manner to form a product analogous to that of Examples 2 and 5.

In connection with the above specific examples, the following product preparations may be used:

a. injectable solution concentration, about 1 to 5% collagen content,

b. preformed ophthalmic implant (device), about 2 to 10% collagen content,

c. tissue augmentation implant, about 2 to 10% collagen content.

It will be appreciated that the foregoing specification and accompanying drawings are set forth by way of illustration and not limitation of the present invention, and that various modifications and changes may be made therein without departing from the spirit and scope of the present invention which is to be limited solely by the scope of the appended claims.

What is claimed is:

1. Method for altering the condition of in situ tissue of a sole human donor by autoimplantation, comprising placing an effective amount of an autoimplantable, crosslinkable, telopeptide-containing collagen at the site of the in situ tissue of said donor, said collagen constituting a product produced by the process of reacting a solids phase extract from tissue, which tissue has been obtained from the same said donor and said extract obtained by comminuting said tissue and treating to remove soluble proteins, with an amine reactive acylating agent or a carboxylic acid reactive esterifying agent.

2. Method of claim **1** wherein said collagen is thereafter crosslinked in situ.

3. Method for altering the condition of in situ tissue of a sole human donor by autoimplantation, comprising placing an effective amount of an autoimplantable collagen at the site of the in situ tissue of said donor, said collagen constituting a product produced by the process of chemically modifying telopeptide-containing collagen obtained from human tissue by comminuting said tissue and treating to remove soluble proteins, which tissue has been obtained from the same said donor, sufficiently to at least partially solubilized the collagen from the comminuted tissue.

4. Method of claim **3** wherein said autoimplantable collagen is crosslinked before being placed at the site.

5. Method of claim **1** used for reshaping the cornea of an eye of the same human donor for correcting sight, comprising:

applying a mold to the surface of the cornea of the eye to be reshaped, the mold having a concave surface of selective shape and size corresponding to an effective shape and size for the outer surface of the reshaped cornea for correcting the sight of the eye,

injecting an effective amount of said collagen in injectable solution form into the cornea, between a pair of adjacent lamellae in the region of the cornea outer surface, to form a mass between such lamellae causing the cornea outer surface to expand toward and into the face to face contact with the mold concave surface,

crosslinking the mass or allowing the mass to autopolymerize in situ to produce a shape retaining implant, and

thereafter removing the mold from the cornea.

6. Method of claim **1** used for replacing vitreous humor removed from the vitreous cavity of an eye of the same human donor, comprising:

crosslinking said collagen in solution form sufficiently to provide an injectable flowable mass of gelatinous consistency corresponding substantially to that of the vitreous humor of the eye of the same donor, and

injecting a replacement amount of the crosslinked mass into the vitreous cavity of said eye.

7. Method of claim **1** used for reshaping the skin contour of the same human donor for substantially eliminating a dermal depression area, comprising:

injecting an effective amount of said collagen in injectable form into the skin of the same donor at the site of the dermal depression area to be reshaped, primarily into the papillary dermic region, to form a fibrous, cohesive mass in the intradermal tissue causing the skin outer surface to expand for substantially eliminating the depression area, and crosslinking the mass or allowing the mass to autopolymerize in situ to produce a shape retaining implant.

8. Method for altering the condition of in situ tissue of a sole human donor, comprising placing an effective amount of an autoimplantable, telopeptide-containing collagen at the site of the in situ tissue of said donor, said collagen constituting a product produced by reacting a solids phase extract from tissue obtained from the same said donor, said extract obtained by comminuting said tissue and treating to remove soluble proteins, with an amine reactive acylating agent or a carboxylic acid reactive esterifying agent.

9. Method of claim **8** wherein said collagen is crosslinkable and is crosslinked before being placed at the site.

10. Method of claim **8** wherein the said collagen having acylated amine groups or esterified carboxyl groups, is purified and formed into a mass of selective shape and size, and thereafter crosslinked prior to being placed at said site.

11. Method of claim **3** wherein said autoimplantable collagen is crosslinked after being placed at the site.

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